

PATENT ABSTRACTS OF JAPAN

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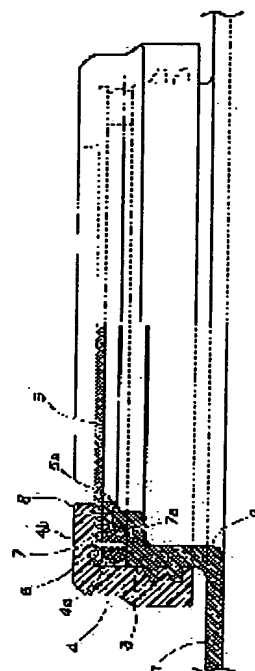
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(54) SEALING STRUCTURE FOR SYNTHETIC RESIN FUEL TANK

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a sealing structure for a synthetic resin fuel tank whose sealability does not drop due to expansion of a sealing member due to absorption of a fuel component.

SOLUTION: The sealing structure comprises a cylindrical screw 3 including an external thread on an outer periphery provided along a periphery of an opening 2 of the synthetic resin fuel tank 1 wherein the ring-like sealing member 6 is interposed between a radial sealing surface 7a formed at a tip of the cylindrical screw and a sealing surface 5a on a side opposite thereto of an attaching plate for sealing at a part fixing region where the attaching plate 5 of a part to be attached is interposed between the cylindrical screw and a nut member 4 to be threaded therewith for fixing. A cylindrical face 4a positioned in proximity of the sealing member is provided on an inner periphery of the nut member on a side of an outer periphery of the sealing member as a regulating means for regulating a radially outward protrusion of the sealing member due to the expansion of the sealing member.



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CLAIMS

[Claim(s)]

[Claim 1] In the components fixed part which prepares the tubed thread part which equipped the periphery with the male screw in the periphery of opening of the fuel tank made of synthetic resin, puts the tie-down plate section of fittings-ed between this tubed thread part and the nut member screwed in this, and is fixed to it It is the seal structure which puts and seals a ring-like seal member the sealing surface of the *** direction formed in a part for the point of said tubed thread part, the sealing surface by the side of said tie-down plate section which counters this, and in between. Seal structure characterized by forming a regulation means to regulate the flash to the direction outside of a path accompanying expansion of this seal member in the periphery side of said seal member.

[Claim 2] Said regulation means is seal structure according to claim 1 characterized by being the cylinder side arranged by approaching said seal member at the inner circumference of said nut member.

[Claim 3] Said regulation means is seal structure according to claim 1 characterized by being the cylinder side arranged by approaching said seal member at the inner circumference of the cylinder wall inserted between said seal members and said nut members.

[Claim 4] Said cylinder wall is seal structure according to claim 3 characterized by being formed in this tie-down plate section at one in the mode which extended in the direction of a center line from the periphery section of said tie-down plate section.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] Especially this invention relates to the seal structure of the components fixed part which attaches components various in the mode which closes opening formed in the wall about the seal structure of the fuel tank made of synthetic resin.

[0002]

[Description of the Prior Art] components like the pump module inserted in the interior in the fuel tank made of synthetic resin — attaching — hitting — a tank body — attaching — opening of business — preparing — this opening — liquid — although components will be fixed to a tank body in the mode closed densely, the seal structure of a configuration as shown in drawing 5 is adopted as such a components fixed part.

[0003] Between the tubed thread part 53 really fabricated in the mode here projected outside from the periphery of opening 52 in the wall of the tank body 51 made of synthetic resin formed by blow molding etc., and the locknut 54 screwed in this While putting between fittings—ed (not shown) the cover plate 55 formed in one and fixing to them Sheathing of the ring-like seal member 56 is carried out to the diameter reduction section 58 prepared at the tip of the tubed thread part 53 through the direction section 57 of a path. It has the structure where the seal member 56 is put and sealed between sealing-surface 57a of the direction section 57 of a path, and sealing-surface 55a of a cover plate 55, by screwing in a locknut 54.

[0004]

[Problem(s) to be Solved by the Invention] Although it sticks in such seal structure by the suitable pressure for sealing-surface 55a and 57a by the seal member 56 carrying out elastic deformation to an expected configuration and necessary seal nature is obtained If the seal member 56 absorbs the component of a fuel and expansion

(swelling) is caused When the seal member 56 shifts or the cross-section configuration changes remarkably, seal reaction force may decline and, as for this, it is desirable to control certainly from the ability to become the factor which reduces seal nature.

[0005] This invention is thought out so that it may cancel the trouble of such a conventional technique, and the main purpose is in offering the seal structure of the fuel tank made of synthetic resin constituted so that seal nature might not fall by expansion of the seal member resulting from absorption of a fuel component etc.

[0006]

[Means for Solving the Problem] In order to achieve such a purpose, it sets to this invention. The tubed thread part (3) which equipped the periphery with the male screw is prepared in the periphery of opening (2) of the fuel tank made of synthetic resin (1). In the components fixed part which puts the tie-down plate section (5) of fittings-ed between this tubed thread part and the nut member (4) screwed in this, and is fixed to it The seal structure which puts and seals a ring-like seal member (6) the sealing surface (7a) of the **** direction formed in a part for the point of a tubed thread part, the sealing surface by the side of the tie-down plate section which counters this (5a), and in between It shall be characterized by forming a regulation means to regulate the flash to the direction outside of a path accompanying expansion of this seal member in the periphery side of a seal member.

[0007] According to this, by regulating the flash to the direction outside of a path from a predetermined location to the seal member which causes expansion by absorption of a fuel component etc., a remarkable change of a gap of a seal member or a cross-section configuration can be controlled, and a seal member can be held in the suitable adhesion condition over a sealing surface.

[0008] The configuration made into the cylinder side (4a) arranged by approaching a seal member at the inner circumference of a nut member can be used especially for the aforementioned regulation means, and according to this, the flash of the seal member to the direction outside of a path is regulated from the predetermined location specified by the cylinder side. And it is not necessary to add a major change to the tubed thread-part [of a fuel tank], and tie-down plate section side of fittings-ed, and, moreover, the increment in components mark can be avoided.

[0009] Moreover, the configuration made into the cylinder side (29aand39a) arranged by approaching a seal member at the inner circumference of the cylinder wall (29-39) inserted between the seal member and the nut member can be used for the aforementioned regulation means, and according to this The flash of the seal member to the direction outside of a path is regulated from the predetermined location

specified by the cylinder side of the inner circumference of a cylinder wall. And although based also on the gestalt of a cylinder wall, the advantage which does not need to add a major change to a nut member side is acquired.

[0010] In this case, if especially a cylinder wall considers as the configuration formed in the tie-down plate section at one in the mode which extended in the direction of a center line from the periphery section of the tie-down plate section, it is desirable and, thereby, can avoid the increment in components mark.

[0011] in addition, the cylinder side formed in the inner circumference of a nut member and a cylinder wall as a regulation means in this invention — in general — truth — be [easy although / it] formed in the direct cross section, it is desirable when a wrap gestalt regulates the flash of a seal member for the periphery side of the hold tooth space of the seal member formed between the sealing surfaces which counter certainly extensively.

[0012]

[Embodiment of the Invention] The configuration of this invention is explained to a detail with reference to the drawing of attachment in the following.

[0013] Drawing 1 shows the 1st operation gestalt of the components fixed part of the fuel tank made of synthetic resin where the seal structure by this invention was applied. The tubed thread part 3 which equipped with the male screw the periphery really fabricated in the mode which projected this components fixed part outside from the periphery of opening 2 in the wall of the tank body 1 made of synthetic resin formed by blow molding etc., Between the locknuts (nut member) 4 which equipped with the female screw the inner circumference screwed in this, the cover plate (tie-down plate section) 5 formed in fittings-ed (not shown) at one is put, and fittings-ed are fixed to it to a fuel tank.

[0014] In this components fixed part, the periphery of the diameter reduction section 8 prepared at the tip of the tubed thread part 3 through the direction section 7 of a path is equipped with the ring-like seal member 6. It has the structure where the seal member 6 is put and sealed between sealing-surface 5a which countered sealing-surface 7a and this which extend in the direction of a path, and was formed in the external surface side of the direction section 7 of a path by screwing in a locknut 4 at the inside side of a cover plate 5. as a regulation means to regulate the flash to the direction outside of a path accompanying expansion of this seal member 6 in the periphery side of the seal member 6 — the inner circumference of a locknut 4 — the seal member 6 — approaching — truth — cylinder side 4a of a direct cross section is formed.

[0015] In this case, a cover plate 5 is put in the direction of a center line (sense which

intersects perpendicularly with an effective area) by direction section of path 4b of a locknut 4, and the diameter reduction section 8 at the tip of the tubed thread part 3, and while the seal member 6 sticks to sealing-surface 7a of the direction section 7 of a path and sealing-surface 5a of a cover plate 5 which were prepared in the periphery side of the diameter reduction section 8, the seal member 6 has a periphery side regulated by cylinder side 4a of a locknut 4. For this reason, the flash to an outside [location / which is specified by cylinder side 4a to the seal member 6 which causes expansion by absorption of a fuel component etc. / predetermined] is regulated, a remarkable change of the cross-section configuration of a gap of the seal member 6 from the predetermined location which this stuck to sealing-surface 5a and 7a, or the seal member 6 is controlled, and the fall of seal nature can be avoided.

[0016] Drawing 2 shows the 2nd operation gestalt of the components fixed part of the fuel tank made of synthetic resin where the seal structure by this invention was applied. This components fixed part between the tubed thread part 23 really fabricated in the mode projected from the periphery of that opening 22 in the wall of a tank body 21 like the aforementioned operation gestalt, and the locknut (nut member) 24 screwed in this The cover plate (tie-down plate section) 25 formed in one is put and fixed to fittings-ed (not shown). The seal member 26 of the shape of a ring with which the periphery of the diameter reduction section 28 prepared at the tip of the tubed thread part 23 through the direction section 27 of a path was equipped has structure put and sealed between sealing-surface 27a of the direction section 27 of a path, and sealing-surface 25a of a cover plate 25.

[0017] On the other hand, as a regulation means to regulate the flash to the direction outside of a path accompanying expansion of the seal member 6 to the periphery side of the seal member 26 unlike the aforementioned operation gestalt, the cylinder wall 29 is inserted between the seal member 26 and a locknut 24, and this cylinder wall 29 is formed in the cover plate 25 at one in the mode which extended in the direction of a center line from the periphery section of a cover plate 25.

[0018] alienation of double-seal side 25a and 27a as which the cylinder wall 29 is specified with the direction die length of a center line of the diameter reduction section 28 — it is formed so that the direction die length of a center line may become large from a dimension, and in order to regulate the periphery side of the seal member 26 extensively in the mode which eats into the tubed thread part 23 in part and to avoid interference with the cylinder wall 29, the crevice 30 is established in the periphery of the tubed thread part 23.

[0019] Thereby, it is arranged in the location where cylinder side 29a formed in the inner circumference of the cylinder wall 29 approaches the seal member 26, and since

the flash of the seal member 26 to an outside [location / which is specified by this cylinder side 29a / predetermined] is regulated, the fall of the seal nature at the time of the seal member 26 causing expansion by absorption of a fuel component etc. is avoidable.

[0020] Drawing 3 shows the 3rd operation gestalt of the components fixed part of the fuel tank made of synthetic resin where the seal structure by this invention was applied. This components fixed part between the tubed thread part 33 really fabricated in the mode projected from the periphery of that opening 32 in the wall of a tank body 31 like the aforementioned operation gestalt, and the locknut (nut member) 34 screwed in this The cover plate (tie-down plate section) 35 formed in one is put and fixed to fittings-ed (not shown). The seal member 36 of the shape of a ring with which the periphery of the diameter reduction section 38 prepared at the tip of the tubed thread part 33 through the direction section 37 of a path was equipped has structure put and sealed between sealing-surface 37a of the direction section 37 of a path, and sealing-surface 35a of a cover plate 35.

[0021] Although the cylinder wall 39 is inserted between the seal member 36 and a locknut 34 and the flash of the seal member 36 is regulated by cylinder side 39a of that inner circumference at the periphery side of the seal member 36 as a regulation means to regulate the flash to the direction outside of a path accompanying expansion of this seal member 36, unlike the aforementioned operation gestalt, this cylinder wall 39 is formed in the cover plate 35 and another object. In addition, the gestalt of cylinder wall 39 the very thing is the same as that of the cylinder wall 29 of said operation gestalt, and in order to avoid interference with the cylinder wall 39, the crevice 40 is established in the periphery of the tubed thread part 33.

[0022] The cylinder wall 39 is possible also for the thing of the gestalt which curved the strip besides an endless ring-like thing in the shape of a ring, is good to form both-ends 41a and 41b with which the strip 41 of each other which constitutes the cylinder wall 39 is compared in the shape of a taper, as shown in drawing 4 in this case, and can avoid un-arranging [from which the regulation on the seal member 36 becomes discontinuity by the joint by this in a hoop direction].

[0023] In addition, in the gestalt of the above operation, although the concrete function of the fittings-ed itself is not described, this invention can be widely applied to the components fixed part in which components are attached in the mode which closes opening formed in the wall of the fuel tank made of synthetic resin, and the function is not chosen.

[0024]

[Effect of the Invention] Thus, since according to this invention a remarkable change

of a gap of a seal member or a cross-section configuration can be controlled by regulating the flash to the direction outside of a path from a predetermined location to the seal member which causes expansion by absorption of a fuel component etc. and a seal member can be held in the suitable adhesion condition over a sealing surface, the fall of seal nature is avoided upwards and big effectiveness is acquired.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The sectional view showing the 1st operation gestalt of the seal structure by this invention.

[Drawing 2] The important section sectional view showing the 2nd operation gestalt of the seal structure by this invention.

[Drawing 3] The important section sectional view showing the 3rd operation gestalt of the seal structure by this invention.

[Drawing 4] The perspective view showing an example of the cylinder wall shown in drawing 3.

[Drawing 5] The important section sectional view showing the conventional seal structure.

[Description of Notations]

1-21-31 Tank body

2-22-32 Opening

3-23-33 Tubed thread part

4-24-34 Locknut (nut member)

4a Cylinder side

5a, 7a, 25a, 27a, 35a, and 37a Sealing surface

5-25-35 Cover plate (tie-down plate section of fittings-ed)

6-26-36 Seal member

7-27-37 The direction section of a path

8-28-38 Diameter reduction section

29-39 Cylinder wall

29a and 39a Cylinder side

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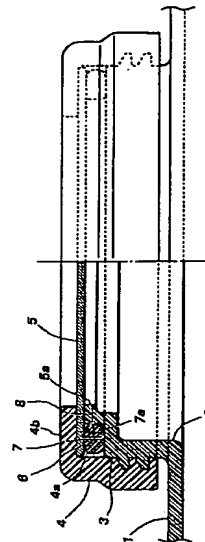
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(54) 【発明の名称】 合成樹脂製燃料タンクのシール構造

(57) 【要約】

【課題】 合成樹脂製燃料タンクのシール構造を、燃料成分の吸収などによるシール部材の膨張によりシール性が低下することのない構成とする。

【解決手段】 合成樹脂製燃料タンク1の開口2の周縁に外周におねじを備えた筒状ねじ部3を設け、この筒状ねじ部とこれに螺合するナット部材4との間に被取付部品の取付板部5を挟み込んで固定する部品固定部における、筒状ねじ部の先端に形成された径方向のシール面7aとこれに対向する取付板部側のシール面5aと間にリング状のシール部材6を挟み込んで密封するシール構造において、シール部材の外周側に、このシール部材の膨張に伴う径方向外側へのはみ出しを規制する規制手段として、ナット部材の内周にシール部材に近接して配置された円筒面4aを設ける。



【特許請求の範囲】

【請求項1】 合成樹脂製燃料タンクの開口の周縁に外周におねじを備えた筒状ねじ部を設け、該筒状ねじ部とこれに螺合するナット部材との間に被取付部品の取付板部を挟み込んで固定する部品固定部において、前記筒状ねじ部の先端部分に形成された略径方向のシール面とこれに対向する前記取付板部側のシール面と間にリング状のシール部材を挟み込んで密封するシール構造であって、

前記シール部材の外周側に、該シール部材の膨張に伴う径方向外側へのはみ出しを規制する規制手段を設けたことを特徴とするシール構造。

【請求項2】 前記規制手段は、前記ナット部材の内周に前記シール部材に近接して配置された円筒面であることを特徴とする請求項1に記載のシール構造。

【請求項3】 前記規制手段は、前記シール部材と前記ナット部材との間に挿設された円筒壁部の内周に前記シール部材に近接して配置された円筒面であることを特徴とする請求項1に記載のシール構造。

【請求項4】 前記円筒壁部は、前記取付板部の外周部から中心線方向に延出した態様で該取付板部に一体に形成されたことを特徴とする請求項3に記載のシール構造。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、合成樹脂製燃料タンクのシール構造に関し、特に壁に形成した開口を閉鎖する態様で種々の部品を組み付ける部品固定部のシール構造に関するものである。

【0002】

【従来の技術】合成樹脂製燃料タンクにおいては、内部に挿入されるポンプモジュールのような部品を組み付けるにあたり、タンク本体に取り付け用の開口を設け、この開口を液密に閉鎖する態様で部品をタンク本体に対して固定することになるが、このような部品固定部には、図5に示すような構成のシール構造が採用されている。

【0003】ここでは、ブロー成型などで形成された合成樹脂製のタンク本体51の壁に、開口52の周縁から外側に突出した態様で一体成形された筒状ねじ部53と、これに螺合するロックナット54との間に、被取付部品（図示せず）に一体に設けられた蓋板55を挟み込んで固定すると共に、筒状ねじ部53の先端に径方向部57を介して設けられた略径部58にリング状のシール部材56が外装され、ロックナット54をねじ込むことにより径方向部57のシール面57aと蓋板55のシール面55aとの間にシール部材56が挟み込まれて密封される構造となっている。

【0004】

【発明が解決しようとする課題】このようなシール構造においては、シール部材56が所期の形状に弾性変形す

ることでシール面55a・57aに適切な圧力で密着して所要のシール性が得られるが、シール部材56が燃料の成分を吸収するなどして膨張（膨潤）を起こすと、シール部材56がずれたりあるいはその断面形状が著しく変化することによってシール反力が低下することがあり、これは、シール性を低下させる要因になり得ることから、確実に抑制しておくことが望ましい。

【0005】本発明は、このような従来技術の問題点を解消するべく案出されたものであり、その主な目的は、燃料成分の吸収などに起因するシール部材の膨張によりシール性が低下することがないように構成された合成樹脂製燃料タンクのシール構造を提供することにある。

【0006】

【課題を解決するための手段】このような目的を果たすために、本発明においては、合成樹脂製燃料タンク

(1)の開口(2)の周縁に外周におねじを備えた筒状ねじ部(3)を設け、この筒状ねじ部とこれに螺合するナット部材(4)との間に被取付部品の取付板部(5)を挟み込んで固定する部品固定部において、筒状ねじ部の先端部分に形成された略径方向のシール面(7a)とこれに対向する取付板部側のシール面(5a)と間にリング状のシール部材(6)を挟み込んで密封するシール構造を、シール部材の外周側に、このシール部材の膨張に伴う径方向外側へのはみ出しを規制する規制手段を設けたことを特徴とするものとした。

【0007】これによると、燃料成分の吸収などにより膨張を起こすシール部材に対して所定位置より径方向外側へのはみ出しを規制することにより、シール部材のずれや断面形状の著しい変化を抑制して、シール面に対する適切な密着状態にシール部材を保持することができ

る。

【0008】特に、前記の規制手段は、ナット部材の内周にシール部材に近接して配置された円筒面(4a)とした構成を採用することができ、これによると、円筒面により規定される所定位置より径方向外側へのシール部材のはみ出しが規制される。そして燃料タンクの筒状ねじ部側及び被取付部品の取付板部側に大きな変更を加えずに済み、しかも部品点数の増加を避けることができる。

【0009】また、前記の規制手段は、シール部材とナット部材との間に挿設された円筒壁部(29・39)の内周にシール部材に近接して配置された円筒面(29a・39a)とした構成を採用することができ、これによると、円筒壁部の内周の円筒面により規定される所定位置より径方向外側へのシール部材のはみ出しが規制される。そして円筒壁部の形態にもよるがナット部材側に大きな変更を加えずに済み利点が得られる。

【0010】この場合、特に円筒壁部が、取付板部の外周部から中心線方向に延出した態様で取付板部に一体に形成された構成とすると好ましく、これにより部品点数

の増加を回避することができる。

【0011】なお、本発明における規制手段としてナット部材及び円筒壁部の内周に形成される円筒面は、概ね真直な断面に形成されたもので良いが、対向するシール面の間に画成されるシール部材の収容スペースの外周側を全面的に覆う形態がシール部材のはみ出しを確実に規制する上で望ましい。

【0012】

【発明の実施の形態】以下に添付の図面を参照して本発明の構成を詳細に説明する。

【0013】図1は、本発明によるシール構造が適用された合成樹脂製燃料タンクの部品固定部の第1の実施形態を示している。この部品固定部は、ブロー成型などで形成された合成樹脂製のタンク本体1の壁に、開口2の周縁から外側に突出した態様で一体成形された外周におねじを備えた筒状ねじ部3と、これに螺合する内周にめねじを備えたロックナット（ナット部材）4との間に、被取付部品（図示せず）に一体に設けられた蓋板（取付板部）5を挟み込んで被取付部品を燃料タンクに対して固定するようになっている。

【0014】この部品固定部では、筒状ねじ部3の先端に径方向部7を介して設けられた縮径部8の外周にリング状のシール部材6が装着され、ロックナット4をねじ込むことにより径方向部7の外周側に径方向に延在するシール面7aとこれに対向して蓋板5の内周側に形成されたシール面5aとの間にシール部材6が挟み込まれて密封される構造となっており、シール部材6の外周側には、このシール部材6の膨張に伴う径方向外側へのはみ出しを規制する規制手段として、ロックナット4の内周にシール部材6に近接して真直な断面の円筒面4aが形成されている。

【0015】この場合、ロックナット4の径方向部4bと筒状ねじ部3の先端の縮径部8とによって蓋板5が中心線方向（開口面に直交する向き）に挟み込まれ、縮径部8の外周側に設けられた径方向部7のシール面7aと蓋板5のシール面5aとにシール部材6が密着すると共に、ロックナット4の円筒面4aでシール部材6が外周側を規制される。このため、燃料成分の吸収などにより膨張を起こすシール部材6に対して円筒面4aにより規定される所定位置より外側へのはみ出しが規制され、これによりシール面5a・7aに密着した所定位置からのシール部材6のずれやシール部材6の断面形状の著しい変化が抑制され、シール性の低下を回避することができる。

【0016】図2は、本発明によるシール構造が適用された合成樹脂製燃料タンクの部品固定部の第2の実施形態を示している。この部品固定部は、前記の実施形態と同様、タンク本体21の壁にその開口22の周縁から突出した態様で一体成形された筒状ねじ部23と、これに螺合するロックナット（ナット部材）24との間に、被

取付部品（図示せず）に一体に設けられた蓋板（取付板部）25が挟み込まれて固定され、筒状ねじ部23の先端に径方向部27を介して設けられた縮径部28の外周に装着されたリング状のシール部材26が、径方向部27のシール面27aと蓋板25のシール面25aとの間に挟み込まれて密封される構造となっている。

【0017】他方、シール部材26の外周側には、前記の実施形態と異なり、シール部材6の膨張に伴う径方向外側へのはみ出しを規制する規制手段として、シール部材26とロックナット24との間に円筒壁部29が挿設され、この円筒壁部29は、蓋板25の外周部から中心線方向に延出した態様で蓋板25に一体に形成されている。

【0018】円筒壁部29は、縮径部28の中心線方向長さにより規定される両シール面25a・27aの縫合寸法より中心線方向長さが大きくなるように形成され、筒状ねじ部23の一部食い込む態様でシール部材26の外周側を全面的に規制するようになっており、円筒壁部29との干渉を避けるために筒状ねじ部23の外周に凹部30が設けられている。

【0019】これにより、円筒壁部29の内周に形成される円筒面29aがシール部材26に近接する位置に配置され、この円筒面29aにより規定される所定位置より外側へのシール部材26のはみ出しが規制されるため、燃料成分の吸収などによりシール部材26が膨張を起こす際のシール性の低下を回避することができる。

【0020】図3は、本発明によるシール構造が適用された合成樹脂製燃料タンクの部品固定部の第3の実施形態を示している。この部品固定部は、前記の実施形態と同様、タンク本体31の壁にその開口32の周縁から突出した態様で一体成形された筒状ねじ部33と、これに螺合するロックナット（ナット部材）34との間に、被取付部品（図示せず）に一体に設けられた蓋板（取付板部）35が挟み込まれて固定され、筒状ねじ部33の先端に径方向部37を介して設けられた縮径部38の外周に装着されたリング状のシール部材36が、径方向部37のシール面37aと蓋板35のシール面35aとの間に挟み込まれて密封される構造となっている。

【0021】シール部材36の外周側には、このシール部材36の膨張に伴う径方向外側へのはみ出しを規制する規制手段として、シール部材36とロックナット34との間に円筒壁部39が挿設され、その内周の円筒面39aでシール部材36のはみ出しが規制されるが、この円筒壁部39は、前記の実施形態と異なり、蓋板35と別体に形成されている。この他、円筒壁部39自体の形態は前記実施形態の円筒壁部29と同様であり、円筒壁部39との干渉を避けるために筒状ねじ部33の外周に凹部40が設けられている。

【0022】円筒壁部39は、無端リング状のもの、他、帯板をリング状に曲成した形態のものも可能であ

り、この場合、図4に示すように、円筒壁部39を構成する帯板41の互いに突き合わされる両端部41a・41bをテーパ状に形成すると良く、これにより合わせ目でシール部材36に対する規制が周方向に不連続になる不都合を避けることができる。

【0023】なお、以上の実施形態においては、被取付部品自体の具体的な機能については触れていないが、本発明は、合成樹脂製燃料タンクの壁に形成した開口を閉鎖する態様で部品が取り付けられる部品固定部に広く適用可能であり、その機能は選ばない。

【0024】

【発明の効果】このように本発明によれば、燃料成分の吸収などにより膨張を起こすシール部材に対して所定位置より径方向外側へのはみ出しを規制することにより、シール部材のずれや断面形状の著しい変化を抑制してシール面に対する適切な密着状態にシール部材を保持することができるので、シール性の低下を回避する上に大きな効果が得られる。

【図面の簡単な説明】

【図1】本発明によるシール構造の第1の実施形態を示す断面図。

【図2】本発明によるシール構造の第2の実施形態を示す要部断面図。

【図3】本発明によるシール構造の第3の実施形態を示す要部断面図。

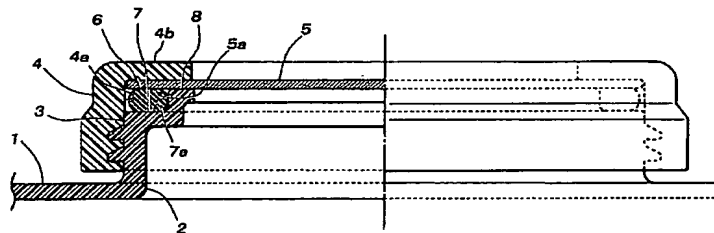
【図4】図3に示した円筒壁部の一例を示す斜視図。

【図5】従来のシール構造を示す要部断面図。

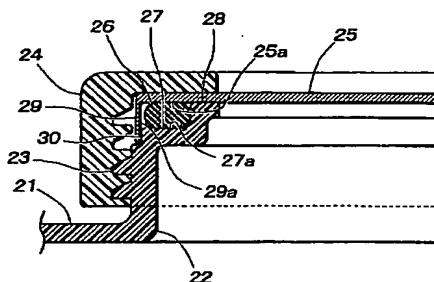
【符号の説明】

- 1・21・31 タンク本体
- 2・22・32 開口
- 3・23・33 筒状ねじ部
- 4・24・34 ロックナット（ナット部材）
- 4a 円筒面
- 5a・7a・25a・27a・35a・37a シール面
- 5・25・35 蓋板（被取付部品の取付板部）
- 6・26・36 シール部材
- 7・27・37 径方向部
- 8・28・38 縮径部
- 29・39 円筒壁部
- 29a・39a 円筒面

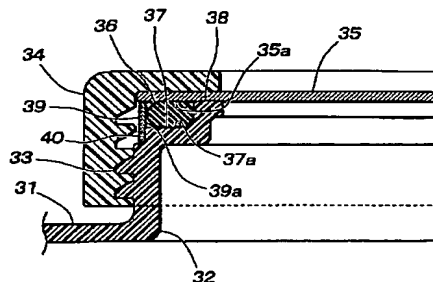
【図1】



【図2】

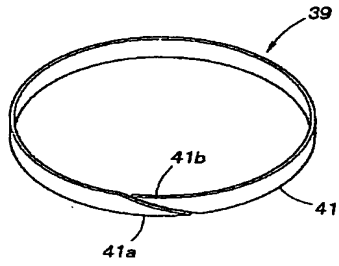


【図3】



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【図4】



【図5】

